

HUNTERDON COUNTY

Cancer Control and Prevention Capacity and Needs Assessment Report Summary

December 2004

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This county-level Report Summary summarizes the larger county report, which is a baseline evaluation of this county, performed as part of the Capacity and Needs Assessment initiative of the New Jersey Comprehensive Cancer Control Plan (www.state.nj.us/health/ccp/ccp_plan.htm), under the direction of the New Jersey Department of Health and Senior Services (NJDHSS) Office of Cancer Control and Prevention (OCCP) (www.state.nj.us/health/ccp/), the University of Medicine and Dentistry of New Jersey (UMDNJ) (www.umdny.edu/evalcweb/), and the Evaluation Committee of the Governor's Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey (Task Force Chair: Arnold Baskies, MD; Evaluation Committee Chair: Stanley H. Weiss, MD).

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Hunterdon County Cancer Capacity and Needs Assessment Report Summary

Introduction

The Office of Cancer Control and Prevention (OCCP) of the New Jersey Department of Health and Senior Services (NJDHSS), in conjunction with the mandate from the Governor's Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey (Task Force), is developing comprehensive capacity and needs assessment reports concerning cancer, individualized for each county in the state. This Report Summary highlights key findings in the report for Hunterdon County.

The Task Force released the New Jersey Comprehensive Cancer Control Plan (NJ-CCCP) in 2002.¹ Each county was commissioned to develop a comprehensive capacity and needs assessment report, as part of the initial implementation steps for the NJ-CCCP. The Report and this Report Summary were developed under the direction of the University of Medicine and Dentistry of New Jersey (UMDNJ) and the Evaluation Committee of the Task Force, in furtherance of the NJ-CCCP (which can be found at http://www.state.nj.us/health/ccp/ccc_plan.htm). This particular assessment was funded by the OCCP through the following New Jersey Cancer Education and Early Detection (NJCEED) county program in Hunterdon County: Hunterdon Regional Cancer Center, Hunterdon Medical Center in Flemington, NJ.

The purpose of the capacity and needs assessment reports is to identify the major cancer issues affecting each county and the county's available resources, or lack thereof, for cancer prevention, screening, and treatment, and to propose recommendations for improvement. The Hunterdon County Cancer Capacity and Needs Assessment (C/NA) Report² analyzes the population demographics and the cancer incidence and mortality rates and distribution of stage at diagnosis for the seven priority cancers of the NJ-CCCP (breast, cervical, colorectal, lung, oral, melanoma, and prostate), as well as current resources available, in the county. These data guided the development of evidence-based recommendations and interventions to address cancer control priorities at local and state levels.

Section 1 – County Demographic Profile

Hunterdon County is located in western/central New Jersey and is the 8th largest county within New Jersey consisting of 429.96 square miles.³ The center of the county is within commuting distance (one hour's drive) of both Philadelphia (approximately 55 miles northeast of Philadelphia) and New York City (60 miles southwest of New York City). Over one-half (160,000 acres) of the land mass in Hunterdon is devoted to farming, with a significant percentage of the county designated as preserved woodlands, wetlands, and internal lakes and streams. In 2000, there were 121,989 residents within Hunterdon County, with an estimated

population increase to 125,795 residents by July, 2002. The county's population density (284 people per square mile) is substantially less than the state average (1,124 people per square mile).³ Hunterdon County is part of the New Jersey primary metropolitan statistical area (NJPSA), including Middlesex, Somerset, and Hunterdon counties. Hunterdon County is expecting approximately 12% population growth between the years of 2000 and 2010.^a Specifically, those municipalities with the greatest expected growth are Alexandria (31%), Clinton Township (20%), Union Township (20%), and Readington Township (15%).³

Gender and Age-Group Distributions

According to the 2000 Census, the population of Hunterdon County is distributed fairly equally across urban (57,234 persons) and rural (64,755 persons) areas.⁴ Of the 121,989 residents in the county, 50.6% (61,684 persons) are female, and 49.4% (60,305 persons) are male. The majority of Hunterdon County residents are between the ages of 25 and 54 years, with a median age of 38.9 years. A little over 27% of the population is 19 years or younger, while about 10% of the population is 65 years or older. Three municipalities stand out for having the largest percentage of residents aged 65 and older: Holland Township (741; 14.5% of its population); Lambertville City (589; 15.2% of its population); and Stockton Borough (83; 14.8% of its population).

Race and Ethnicity

In Hunterdon County, the large majority of residents are white (93.9%). The second largest population group is Hispanic (2.8%),^a followed by black (2.2%) and Asian (1.9%). Within the Hispanic population, Puerto Ricans are the most common. Flemington Borough has the highest percentage of Hispanic (11.0%) and Asian residents (3.1%). Union Township has the highest percentage of black residents (13.4%).

Income Levels and Poverty

The 1999 median incomes for Hunterdon County households (\$79,888) and families (\$91,050) were substantially higher than those of the state — \$55,146 and \$65,370, respectively.^{b,4} The median per capita personal income in Hunterdon County (\$36,370) was also higher than the New Jersey median (\$27,006). The county is one of the most affluent in New Jersey, as well as in the country; only 1.6% of families in this county live below the poverty level, compared to the state average of 6.3%.⁵ Nonetheless, five municipalities in Hunterdon County have higher rates of poverty, although their rates are all below the state average: Alexandria Township (4.3%); Bloomsbury Borough (4.8%); Flemington Borough (5.0%); Hampton Borough (7.1%); and Lambertville City (4.5%). Pockets of considerable poverty do exist in Hunterdon County. An estimated 38% of the 530 families with income below poverty level reside in Hampton Borough/Glen Gardner Borough (8.9% or 47 families in census tract 103), Bloomsbury Borough (11.7% or 62 families in census tract 106), Flemington Borough (9.6% or 51 families in census tract 114), and Lambertville City (8.1% or 43 families in census tract 119).⁴

^a In general, percentages in this report are rounded to two digits.

^a Hispanics and non-Hispanics may be of any race. Racial categories include both Hispanics and non-Hispanics.

^b All figures for poverty, income, and employment are from the 2000 Census, but refer to the year 1999.

In an effort to assess current levels of poverty in Hunterdon County, school lunch program data for 2002 was obtained from the Division of Field Services of the New Jersey Department of Education. Eligibility for free or reduced-cost (\$0.40 per day) lunches is based on parental/guardian income level. Within Hunterdon County, there were 517 children who qualified for the free lunch program in 2002. Another 254 children qualified for the reduced lunch program. While comparatively few children in Hunterdon County are eligible for these programs compared to other counties, there were a number of schools in Hunterdon that had relatively high percentages of student eligibility. These included Lambertville Elementary School (16.6%), Hampton Borough Elementary School (12.0%), Desmares Elementary School in Flemington (10.6%), Edith Thomas Elementary School in Frenchtown (10.1%), High Bridge Elementary School (8.8%), and Bloomsbury Elementary School (8.6%).⁶

Educational Attainment

Within New Jersey, almost 18% of the residents have less than a high school diploma, while almost 30% have a bachelors degree or higher. Within Hunterdon County, 8.5% have less than a high school education, and over 41.8% have at least a bachelor's degree.⁷ Although Hunterdon County overall has a fairly well-educated population, specific townships and municipalities within Hunterdon County have relatively low educational attainment. Union Township stands alone as the municipality with the highest number and percentage of its residents aged 25 and over (1,053; 22.9%) who have not attained at least a high school diploma.⁷

Public Transportation

Hunterdon County, like most rural counties, does not have a well-developed public transportation system. Although Flemington Borough provides public transportation to help low-income residents access health care, transportation options for those living in other towns and townships with high poverty levels (i.e., Hampton Borough, Bloomsbury Borough, Alexandria Township, and Lambertville City) are limited. Residents from these locations must rely on "LINK" transportation which is available to senior citizens, the disabled, and low-income residents in Hunterdon County. The wait for this service can be 30 to 45 minutes or longer, depending on demand and the location of the LINK shuttle bus on its route at the time the appointment is made.

Health Status Indicators

Based on standard health indices (i.e., infant mortality rate, percentage of low birth weight babies, average life expectancy, etc.), Hunterdon County has better health status indicators than the rest of New Jersey.²

Alcohol abuse and tobacco use are risk factors for several cancers including oral and lung cancers. In 2001, Hunterdon County ranked 5th highest of all New Jersey counties in residential treatment admissions for alcohol abuse among adults aged 18 years older and older, with a rate of 291.7 admissions per 100,000 residents.⁸ The Hunterdon County municipalities with the highest number of alcohol treatment admissions in 2001 were: Flemington Borough (90); Readington Township (31); Glen Gardner Borough (21); and Milford Borough (20).⁹

Behavioral Risk Factor Surveillance System (BRFSS) data indicate that 19% of New Jersey adults aged 18 and over smoked in 2002.¹⁰ In addition, 4.5% of New Jersey adults reported having had 5 or more drinks per occasion 5 or more times during the previous month. Responses to a local survey suggest that severe chronic drinking and tobacco usage in Hunterdon County occur at rates similar or below the rates for the state overall.^{c,11}

Among youth, 29% of New Jersey youth in grades 9 through 12 reported smoking at least one cigarette in the past month, and 83% reported having had at least one drink during their life, as reported in the Youth Risk Behavior Survey (YRBS) results from 2001.¹² Results from a youth risk behavior study conducted in Hunterdon County suggest county rates were similar or below the state rates.^{d,13}

Environmental Contributions to Cancer

Long-term exposure (15 or more years) to radon has been identified as a risk factor for lung cancer.¹⁴ Hunterdon County is within the “Reading Prong” radon belt, the northwestern part of the state known to have elevated radon gas.^{15,e} These high concentrations of radon are seen in the bedrock formations common to this geographic region, and testing of homes within this region has revealed high indoor levels of radon gas. According to the New Jersey Department of Environmental Protection (NJDEP), the majority of Hunterdon County falls within the “Tier 1” designation where greater than 25% of the homes sites tested had radon levels of 4.0 pCi/l or higher.¹⁵ According to the NJDEP, Statute #26:2D-80, radon removal ventilation systems are required for all newly built homes and any resale of existing homes since 1986.¹⁶ A number of other statutes require the public to be educated about the benefits of radon removal. However, residents living in homes built prior to 1986 are not required by law to have radon removal systems. Over 60% of the homes built in Hunterdon County were built prior to 1980. Municipalities with the highest percentage of home built prior to 1980 include Stockton Borough (96%), Frenchtown Borough (95%), Flemington Borough (92%), Milford Borough (90%), Lambertville City (82%), Bloomsbury Borough (82%), Califon Borough (82%), West Amwell Township (81%), and Hampton Borough (80%).⁴ Eleven municipalities in Hunterdon County have radon levels that are over double (> 8.0 pCi/l) the Tier I designation of 4.0 pCi/l, with

^c *A Partnership for Health*, Hunterdon County’s “Healthier Communities” initiative (see descriptive information about this organization in Section 2 of the C/NA report²), partnered with Holleran Consulting to conduct randomized telephone interviews in early 2001 using questions from the 2000 Behavioral Risk Factor Surveillance System survey to measure a variety of health risk behaviors. Telephone numbers were randomly selected from the master list of residential phone numbers for the county. A total of 1,004 interviews were completed (27% response rate). While the survey provided useful information for local health services planning, the respondents may not be representative of the total population of Hunterdon County. Information on participation rates (i.e., those who participated versus those who chose to hang up or decline participation) was not provided. Furthermore, while a number of questions were taken from BRFSS, there were some questions developed specifically for this study. No internal consistency or reliability analyses were conducted to ensure the survey was reliable or valid.

^d *A Partnership for Health* partnered with Holleran Consulting to conduct a study of risk behaviors among youth. Surveys were distributed to a sample of 9th and 11th graders at 5 Hunterdon County high schools in the spring of 2000. A total of 1,725 surveys were completed, and a sample of the completed surveys (25% of each grade's census) was selected for each school, resulting in 750 surveys in the final analysis. The sample of completed surveys chosen for analysis may not be representative of the total population of Hunterdon County’s youth.

^e The Reading Prong is a uranium-rich geological formation stretching from Pennsylvania through northwestern New Jersey into Southern New York State.¹⁵

Clinton Town (10.85 pCi/l), Hampton Borough (12.50 pCi/l), and Stockton Borough (11.71 pCi/l) having the highest radon levels.¹⁵

There is concern that environmental contamination may increase the risk for some types of cancer. Many of the townships within Hunterdon County have numerous environmental contamination sites that are in various stages of NJDEP remedial action. The following municipalities stand out as having a high number of active environmental contamination sites known to have carcinogenic agents: Clinton Town (5 sites), Flemington Borough (9 sites), Raritan Township (6 sites), and Readington Township (6 sites).¹⁷ Many of these sites are located on the properties of automobile service stations where the contaminants are gasoline and petroleum products that either have been illegally dumped onto the ground or have leaked into the ground water due to faulty underground fuel tanks. The relevance of the presence of these sites to cancer risk is not known.

Section 2 – Overview of Overarching Issues

Detailed information regarding cancer screening, education, advocacy, treatment, palliation, and other activities has been collected to identify resources currently available in Warren County. This information was included in the statewide Cancer Resource Database of New Jersey (CRDNJ).¹⁸ Of the 70 healthcare and social service related organizations located in Hunterdon County, it was determined that 49 offer some form of cancer screening. The most common forms of cancer screening are Papanicolaou (“Pap”) smears and prostate cancer screening, followed by clinical breast exams, mammographies, skin cancer screening, and colorectal cancer screening. While a number of healthcare organizations indicated that they perform mammography, only a few locations within the county actually provide this service. The other organizations are points of entry to mammography services, but the actual screening is performed at a different location, primarily in the Flemington or Clinton areas. Similarly, responses to the CRDNJ survey indicated that colorectal screening is conducted only in these two areas. With the exception of Flemington Borough, little if any screening for any type of cancer is provided in geographic areas of poverty in Hunterdon County.

Cancer Education and Treatment

All facets of cancer education, early detection, and treatment are coordinated for the county through the Hunterdon Regional Cancer Center (HRCC) located at Hunterdon Medical Center in Flemington, NJ. Staff at HRCC provide the primary leadership within the county and collaborate with professionals employed by other organizations to implement the cancer plan for early detection and education. Other organizations that play an important role include the American Cancer Society, Hunterdon County Office on Aging, Hunterdon County Health Department, Public Health Nursing and Education Program, Planned Parenthood of Greater Northern New Jersey, and Fox Chase Cancer Center (located in Philadelphia, PA).

The Hunterdon County NJCEED Office is located within the HRCC of Hunterdon Medical Center in Flemington. The Hunterdon County Comprehensive Cancer Plan describes primary prevention efforts, early detection, referral activities, as well as tertiary social support and services for cancer patients, family members, and cancer survivors. This plan has a very strong

community education component. Various community organizations (e.g., ACS, schools, worksites) have a history of willingness to participate and collaborate. Most of the educational programming is in the form of individual- and group-level cancer education and social support. Print media are often used to supplement learning and educational activities. Prior attendance records show strong community participation and high levels of consumer satisfaction.

While there are some outreach efforts with worksites, schools, and community groups, most of the education and prevention programs are conducted at the HRCC location. The HRCC is located within the middle of the county, and consumers living toward the perimeter of the county are likely to receive less cancer information. Cancer prevention and control efforts need to target high-risk geographic areas where the cancer burden is high. For example, more outreach and educational programming is needed in areas like Lambertville City and the surrounding areas including West Amwell, and Delaware Townships. While HRCC has a history of collaboration with outside organizations and community groups, the responsibility to maintain the prevention message continues to lie with staff at HRCC. Based on interviews with a number of Hunterdon County agency staff, HRCC staff provides leadership for cancer education and early detection and has a sense of social responsibility. HRCC staff are highly committed to addressing the cancer burden within Hunterdon County. When our needs assessment staff interviewed personnel from local agencies, we were consistently referred to HRCC for answers to all questions. In other words, based on our interviews with members of the countywide cancer coalition, the responsibility and ownership for cancer prevention is not diffused throughout the county. Rather, there is an over-reliance on the expertise of staff at the HRCC, and “cancer literacy” within social service and agency staff elsewhere in the county is lacking.¹⁹

Palliative Care and Quality of Life Improvement Programs

Hunterdon Hospice and Hunterdon Medical Center Home Health Services provide palliative care for patients in the final stages of cancer illness. The “Partners in Healing Program” offers palliative services during the entire cancer treatment process from beginning to end. A concerted effort on the part of clinical staff has improved the identification and treatment of cancer pain in recent years. Nonetheless, the quality of the palliative care component at HRCC relies heavily on the treatment team and their ability to communicate the needs of the cancer patient. There is no formal palliative care unit at HRCC, and there is the risk that patients and their families will not receive needed services in the beginning and middle stages of cancer treatment. Furthermore, the demand for Home Health Services may exceed the capacity of HRCC staff to provide palliative care, especially if a need exists within patients and families living far from Flemington. For example, it would take an HRCC staff member 40 minutes by car to reach someone residing in Hampton Borough in need of home health services. Support groups exist for breast and prostate cancer patients, but not for other high incidence cancers in Hunterdon County (i.e., melanoma, colorectal, and cervical cancer). Few, if any, services specialize in childhood cancers, although support groups are available for parents and family members.

Related Wellness Education at Worksites

There are 55 large worksites that employ at least 100 employees within Hunterdon County. As part of the effort to create a comprehensive database of county resources for inclusion in the

statewide CRDNJ, 40 of these worksites were willing to be interviewed by our project staff. Eight worksites have a history of providing cancer related education on site. Twelve worksites and nine public schools have at some point provided smoking cessation or referral services for smoking cessation for their employees or staff. Seven employers have active physical activity programs available for their employees. Project staff experienced significant difficulty accessing this information, as many worksites indicated they have policies of not sharing such information with outside parties. Therefore, these figures may not represent all employers and the programs offered to employees. A total of five worksites have expressed interest in actively participating in the Hunterdon County Cancer Coalition. It is our hope that as more worksites become involved, such involvement will spread throughout the county.

Faith-based Organizations

A total of 108 faith-based organizations located in Hunterdon County were contacted to obtain information for inclusion in the statewide CRDNJ. Some churches have a strong community presence, with members supporting local shelters and food pantries or volunteering in the local community. In some cases, churches have sponsored bone marrow donor searches or have provided ministry to families with chronic or terminal illnesses. In other cases, churches indicated that they “just pray” for the sick and needy. A number of churches have a history of being involved in community organizing and sponsoring events or activities related to social causes. None of the church representatives contacted by our staff reported that there was a health advisor in the church. Many of the churches in Hunterdon County have developed (or are considering developing) websites to keep congregations abreast of church related news and activities, and a number of clergy expressed a willingness to have links to cancer related education and screening information posted onto their website.

Public Schools

New Jersey legislation mandates that public schools provide physical and health education. For example, each board of education that operates an educational program for students in grades 7 through 12 must offer instruction on breast self-examination (Statute: 18A:35-5.4).²⁰ Administrative staff at 45 public schools in Hunterdon County (87% of the 53 elementary, middle, and high schools in the county’s 31 school districts) agreed to be interviewed. Staff at the three participating high schools reported that their female students receive instruction in breast self-examination. However, respondents from freestanding middle schools and elementary schools (Kindergarten through 8th grade) were more likely to be unclear or unaware about whether breast self-examination education is provided at their schools. While administrative staff at these schools report that students receive the mandated education, it was beyond the scope of this study to assess the quality or breadth of such education. Very few, if any, schools have developed partnerships to assure that the education provided is adequate. Due to limited resources, HRCC staff do not have the luxury of traveling to the schools to provide trainings, and/or educational programs.

Almost all (96%) of the schools participating in the interviews reported having some form of health service (i.e., school nurse) within the school. All schools indicated they had a tobacco policy and an enforcement policy for those who violated the tobacco policy. Among the schools

interviewed, only one reported having a health education council. The overwhelming majority of principals reported being unaware of any school coalitions in the community related to health education.

Section 3 – Cancer Burden

All incidence²¹ and mortality²² rates cited herein are per 100,000 and age-adjusted to the 2000 U.S. population standard⁴. All county and state rates are average annual rates during 1996–2000. For simplicity, the 1996–2000 average annual age-adjusted incidence or mortality rate hereinafter will be abbreviated and referred to as incidence or mortality rate, respectively. The reason the five-year average has been routinely used is that the small number of cases in a single year leads to statistical variations that are not generally meaningful. For U.S. incidence rates, 1999 or 2000 rates were used. Unless otherwise specified, all rates are for invasive cancer only.

Overall Cancer Burden

For all cancers combined (a rate that includes cancers not discussed in this report), Hunterdon County's incidence rate among men ranks 20th of the state's 21 counties, but among women, the county ranks 2nd highest of all counties. Despite low crude incidence, Hunterdon County has average annual incidence rates for three cancer sites that exceed the average for the state of New Jersey. These cancers within Hunterdon County that exceed the state average incidence rates are breast (county rate was 14% higher among females), colorectal (9% higher among females), and melanoma (21% higher among males, 6% higher among females). When comparing Hunterdon County's incidence rates to those of the other twenty counties in New Jersey, Hunterdon ranks highest overall in breast cancer, 6th highest in colorectal cancer among women, 6th highest in melanoma among men and 9th highest among women. The summary table below provides information about estimated prevalence, incidence rates, and mortality rates for Hunterdon County residents.

Summary Table
Selected ^a Age-Adjusted ^b Hunterdon County Cancer Statistics, 1996_2000^c

	Estimated Prevalence^d	Incidence per 100,000^e	Mortality per 100,000^e
All Cancers,^f Hunterdon County			
Male	1,483	565.2	239.3
Female	2,564	484.2	172.9
NJ-CCCP Priority Cancer by Gender			
Breast, female	1,143	158.1	30.5
Cervical, female	105	10.2	3.3
Colorectal, male	183	78.0	26.2
Colorectal, female	265	59.1	21.9
Lung, male	48	74.4	65.2
Lung, female	67	53.0	37.5
Melanoma, male	131	24.4	8.7
Melanoma, female	127	12.6	3.2
Oral/Oropharyngeal, male	33	9.0	3.3
Oral/Oropharyngeal, female	26	5.2	1.5
Prostate, male	578	164.4	37.6

^a Based upon the NJ-CCCP.

^b Age-adjusted to 2000 U.S. Census population standards. Age-adjustment is used to describe rates in which statistical procedures have been applied to remove the effect of differences in composition (specifically, variations in age distribution) of the various populations. This is important in order to portray an accurate picture of the burden of cancer, since cancer is known to disproportionately affect persons of differing ages.

^c Rates are average annual rates during the time period 1996 through 2000.

^d Prevalence is the measurement of burden of disease in the population at a particular point in time. Within this report, it represents the number of people alive who have ever been diagnosed with the disease. Prevalence figures given here are rough theoretical estimates, based on a number of assumptions, and computed by applying national prevalence-to-incidence ratios to Hunterdon County's average annual crude incidence counts for the five years 1996–2000, separately for each gender. Actual prevalence is likely to be of the same order of magnitude as the estimate.²³

^e Incidence and mortality are gender-specific, age-adjusted annual rates, not counts. A rate at least 10% higher than the corresponding state rate is shown in bold italics.

^f "All cancers" represents the sum of all invasive cancer during the time period, not just the seven cancers below.

Populations of Focus

In order to identify the groups that generate most of the cancer mortality and incidence for Hunterdon County, cancer incidence and mortality rates, prevalence estimates, and staging data from the New Jersey State Cancer Registry were compared across gender and age groups. In addition, risk factor information obtained from a local study along with interview data obtained from health care professionals was analyzed.^{11,13} Below is a summary of each cancer site and the populations of focus for the priority cancers in Hunterdon County.

Breast Cancer

- In Hunterdon County, 46% of women on Medicare, or approximately 3,210 women 65 years or older, reported not having a mammogram in the last twelve months.²⁴ As a result, older women in Hunterdon County are at higher risk to have late-stage cancer at the time of diagnosis. The mortality rate among women aged 65 years or older is higher in the county (158.6 per 100,000) than in the state (141.5 per 100,000)
- The National Cancer Institute's (NCI's) Atlantic Region Cancer Information Service (CIS) provided Consumer Health Profile maps and data for Hunterdon County which help define areas of medically underserved residents in need of cancer screening and smoking cessation.^{f,25} Zip codes 08822 (Flemington) and 08530 (Lambertville; West Amwell) were identified as geographic areas in need of breast cancer screening. Furthermore, this data suggest women in these zip codes who are at risk for breast cancer are likely to perceive mammograms as an unnecessary procedure. Based on the 2000 Census, it is estimated that there are 2,780 women who are 40 years of age and older residing in these municipalities.⁴
- Among 3,923 New Jersey women aged 50 and over who were interviewed from 2000 through 2002, 78% reported having had a mammogram within the past two years.^{10,26} The rate for Hunterdon County did not differ significantly from the rate for the state overall, but only a limited number of women within the county (40) were interviewed.²⁶ During the period 1992–2002, the screening rate in the county was significantly higher than the rate for the state overall.²⁶ Prior statewide Behavioral Risk Factor Survey (BRFS) efforts did not obtain a large enough sample to be representative for Hunterdon County; thus additional sampling within the county is recommended to understand the screening needs.
- All Hunterdon County high schools provide female students instruction on breast self-exams.¹⁸ However, a number of middle schools (grades 6 through 8) and elementary/middle schools (Kindergarten through grade 8) do not provide this instruction. There are no formal health education councils within the majority of public schools in Hunterdon County. As a result, there is no formal local mechanism by which cancer education materials can be periodically reviewed and modified to include recent advances and knowledge in cancer prevention and education.

Cervical Cancer

- Older women in their post-child bearing years may not perceive a need to obtain regular pelvic examinations and Pap smears.²⁷

^f Consumer Health Profile maps of each New Jersey county were provided in June 2003 to the NJDHSS and UMDNJ and each county by the National Cancer Institute's Atlantic Region Cancer Information Service, along with ongoing technical support. (More information can be obtained from: 1-800-4-CANCER.) The medically underserved refers to individuals who lack access to primary care either because they are socioeconomically disadvantaged and may or may not live in areas with high poverty rates or because they reside in rural areas. The term also refers to individuals that reside in geographic areas where the Index of Medical Underservice (IMU) is 62 or less. The IMU is a weighted score derived from four variables: the ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of population below the federal poverty level, and the percentage of the population aged 65 years and older.

- Nationally, approximately 20 million people are infected with human papillomavirus (HPV). It is estimated that there are 5.5 million new cases of HPV in the U.S. each year, with the majority of these cases in women of childbearing age.^{28,29} It is estimated that there are over 100 strains of HPV.¹ While not all strains of HPV are associated with cancer, a significant number of HPV strains are associated with cervical cancer. According to staff at the Hunterdon Regional Cancer Center, women in Hunterdon County do not have an adequate understanding of HPV nor do they understand the relationship between HPV and cervical cancer.¹⁹

Colorectal Cancer

- Among 4,961 New Jersey adults aged 50 and over who were interviewed from 2001 through 2002, 56% reported having had colorectal cancer screening (either a fecal occult blood test within the past year or a sigmoidoscopy or colonoscopy ever).^{10,26} The rate for Hunterdon County was significantly higher than the state rate, but only a limited number of adults within the county (45) were interviewed.²⁶ Data from a local survey suggest that while the majority of Hunterdon County adults obtain fecal occult blood tests, many do not obtain flexible sigmoidoscopies or colonoscopies.¹¹ Prior statewide BRFSS efforts did not obtain a large enough sample to be representative for Hunterdon County; thus additional sampling within the county is recommended to understand the screening utilization and needs. During the period 1992–2002, the screening rate in the county was significantly higher than the rate for the state overall.²⁶ Further, the screening rate within the county increased significantly during the period 1992–2002, as they did in the state overall.²⁶
- Based on data from the NCI's CIS, zip codes 08822 (Flemington) and 08530 (Lambertville, West Amwell) were identified as geographic areas in need of colorectal cancer screenings.²⁵ Within these high-risk geographic areas, there are approximately 3,310 residents aged 50 and over who should be regularly screened for colorectal cancer.⁴

Lung Cancer

- Long-term exposure to radon gas has been linked to lung cancer.¹⁴ As discussed earlier, Clinton Town, Hampton Borough, and Stockton Borough are geographic areas with elevated radon levels. However, it is unclear what testing and appropriate remediation have been undertaken in these areas. Further, the percentage of residents at increased risk due to the synergistic effect of smoking is unknown. Therefore, it is recommended that this information be obtained from the NJDEP and examined. If these data substantiate the concern for potential long-term exposure among residents who have lived at least 15 years in homes with elevated radon levels, additional BRFSS data should be collected, if not already collected by the NJDEP.

Melanoma

- Melanoma is responsible for about three-fourths of all deaths from skin cancer.¹ The stage of melanoma at the time of diagnosis in Hunterdon County is similar to the state.

Although the number of cases is small in the county, the incidence and mortality rates in the county are higher than the corresponding state rates for both genders.

- Exposure to ultraviolet (UV) radiation is the major risk factor for melanoma.¹ The effect of UV light on the skin continues to increase the risk of skin cancer with each incidence of sunburn, and is a cumulative risk over the years. Hunterdon County has a high percentage of residents with northern European and Scandinavian heritage.⁷ Thus, many county residents are fair-skinned and/or have freckles, and consequently, are at higher risk for melanoma.
- Data from the survey of Hunterdon County residents in 2001¹¹ suggest the appropriate use of sun block and other skin protective measures can be greatly improved within the county.
- Little education on the topic of skin cancer prevention is offered within Hunterdon County with the exception of education offered through the Hunterdon County NJCEED office and the schools. The high incidence and mortality rates within Hunterdon County suggest increased education and outreach efforts are needed.

Oral Cancer

- Hunterdon County residents have the lowest incidence rate for oral cancer in the state. However, data from the survey of Hunterdon County youth suggest the use of smokeless tobacco (chewing tobacco or snuff) among the county's male teens may be a major problem within the county, which represents a risk factor for oral cancer.¹³
- Routine dental visits can increase the likelihood of early detection of oral cancer. However, almost 26% of New Jersey adults reported not having visited a dentist or dental clinic for any reason within the past year.¹⁰ Data from a local study suggests that the lack of routine dental visits is also a problem in Hunterdon County.¹¹

Prostate Cancer

- Of the 395 Hunterdon County men diagnosed with prostate cancer during 1996–2000, those aged 50 to 64 years and those aged 75 and older had a higher percentage of regional and distant stage diagnoses. Thus, males aged 40 to 64 years may not receive routine prostate cancer screening. There are approximately 22,750 males in Hunterdon County who are between the ages of 40 and 64 years of age.⁴
- While mortality numbers are small in Hunterdon County compared to more populated counties, the mortality rate due to prostate cancer among Hunterdon County males (37.5) is 14% higher than the rate for the state overall (32.9). Further, the mortality rate among white males in the county (37.8) is 25% higher than the corresponding state rate (30.3).

Other Cancer Sites/Issues

In addition to the cancers listed above, there are two cancers commonly associated with human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS): AIDS-related lymphoma; and Kaposi's Sarcoma (cancer of the soft tissues under the skin that lines the mouth, nose and anus). While HIV and AIDS incidence and prevalence are relatively low in Hunterdon

County (149 cumulative diagnoses of AIDS, 92 living with AIDS, and another 44 confirmed to have HIV infection),³⁰ individuals responsible for implementing cancer prevention activities need to be cognizant of the HIV/AIDS population and their heightened risk for developing cancers. The Title II and Title III Ryan White Programs in Hunterdon County are designed to provide care and treatment to persons with HIV/AIDS, including treatment for co-morbid conditions such as cancer.

The investigation of other cancers that occur in Hunterdon County is beyond the scope of this report. However, it should be noted that during the period 1996–2000, the incidence rate in Hunterdon County was either the highest or among the highest in New Jersey for a number of other cancers, including ovarian cancer (highest incidence rate of all counties in New Jersey), uterine cancer (highest incidence rate of all counties in New Jersey), leukemia among females, thyroid cancer among females, brain cancer among females, and Non-Hodgkin's lymphoma among males.³¹

Section 4 – Discussion, Analyses, and Recommendations

Recommendations for County and Local Priorities

Based on the estimated prevalence, breast cancer, prostate cancer, colorectal cancer, melanoma, and lung cancer contribute to the majority of the cancer burden in Hunterdon County. The average annual, age-adjusted incidence rates for Hunterdon County were higher than the corresponding state rates for breast and colorectal cancer for women, and melanoma and bladder cancer for men. County mortality rates are higher than the corresponding state rates for colorectal cancer in women, and melanoma, bladder cancer, and prostate cancer in men.

Hunterdon County is a very affluent county; however there are geographic areas that have significant poverty. Examination of the geographic distribution of county resources shows a significant paucity of cancer-related services and programs within regions of high poverty levels, with the exception of Flemington. According to the American Cancer Society's Eastern Division Diversity Work Plan, people of all ethnic backgrounds who are poor, lack health insurance, and lack access to higher quality cancer care, have higher cancer incidence and mortality and lower rates of survival.³²

With regard to service gaps, current programming by HRCC tends to rely solely on an educational model, rather than the application of community- and systems-level health behavior change theories.⁸ Environmental or cultural-level interventions that challenge public perceptions, belief systems, and cultural mores could be useful. For example, social marketing theory (i.e., the application of commercial advertising principles to public health interventions) could be applied to multi-media messages that would reach worksites, churches, schools, and community

⁸ For example, one-on-one education, or group level education uses pedagogical methods from the education field. Whereas, community-systems level strategies (i.e., outreach efforts using health communication theory, social marketing efforts) attempt to change health behavior (i.e., seeking cancer screening) are more often anchored in theories of public health practice.³³ (This problem is not unique to Hunterdon County; many health and social service organizations elsewhere have a history of providing programs that rely on educational models, or models that require interest and motivation on the part of the public).

members at a variety of locations within the community.³³ A multi-media education effort that reaches all areas of the county is needed. While the HRCC lacks the personnel resources for such a venture, the use of the internet as a mass media health promotion tool may be a helpful strategy. Furthermore, a web-based educational training tool would be useful for empowering agency staff elsewhere in the county to develop cancer expertise in a broader set of organizations. Through these web-based initiatives, medical providers may also receive messages that increase awareness of Hunterdon County NJCEED program as well as other HRCC programs that are geared toward cancer prevention.^h

The priorities of the New Jersey Comprehensive Cancer Control Plan are applicable both statewide and within Hunterdon County. Recognizing the breadth of the cancer problem and the limitations of time and resources, additional priorities need to be established based on evidence presented in this study. Whenever a NJ-CCCP strategy is related to the priorities and strategies identified for Hunterdon County, the related NJ-CCCP strategy is identified by its number as stated within parentheses: e.g., (CE-1.1.1) refers to the NJ-CCCP's cervical cancer strategy 1.1.1 as found on page 121 of the NJ-CCCP. Priorities presented here are also related to the ten Essential Public Health Services (EPHS) as identified in the National Public Health Performance Standards.³⁴ (See Section 4 of the full report.²)

Priority 1: Improve access to cancer services for low-income individuals. (EPHS 4, 7, 8)

- 1) Expand NJCEED screening service locations to the municipalities located along the perimeter of the county and expand funding concomitantly. Priority municipalities include Alexandria Township, Bloomsbury Borough, Hampton Borough, and West Amwell/Lambertville City. Continued efforts should remain for Flemington Borough.

Priority 2: Promote early detection and reduce cancer mortality. (EPHS 3, 4, 7, 9, 10)

- 1) Continue to support the NJCEED program in Hunterdon County. Expand educational efforts in skin cancer prevention and increase screening efforts for the earlier detection of melanoma. For example a countywide effort to educate residents via worksites, churches, and schools is needed. Expanded efforts are also needed to improve county residents' cancer health literacy in breast cancer, prostate cancer, and colorectal cancer. In particular, outreach efforts need to reach the perimeter of Hunterdon County including municipalities that have higher rates of poverty (i.e., Bloomsbury Borough, Hampton Borough, and Lambertville City).
- 2) Disseminate information regarding NJCEED through partnerships that include county businesses and faith-based organizations. These partnerships can be created in a cost-effective way through internet-based participation.
- 3) Promote increased utilization of prostate cancer screening services by low-income men, particularly those eligible for NJCEED (age 40 to 64 years).

^h Some of these programs include the Family Risk Assessment Program (assesses cancer risk in those who have familial history of cancer), the Star Study (a clinical trial conducted to determine the effectiveness of the drug raloxifene in preventing breast cancer in post-menopausal women), and the Select Study (an ongoing study of the efficacy of Selenium and Vitamin E in preventing prostate cancer).

Priority 3: Advance awareness of cancer prevention and improve health literacy. (EPHS 3, 4, 7, 9)

- 1) Promote long-term healthy eating patterns, healthy weight, and physical activity for cancer prevention among county residents by incorporating local schools, workplaces, and churches in community efforts.
- 2) Encourage development of formal school health advisory councils and continue to teach youth throughout the county about the importance of not smoking, limiting sun exposure and using sunscreen, eating healthy foods, exercising regularly, and conducting breast self-exams for girls and testicular exams for boys.
- 3) Expand participation in cancer prevention to residents throughout the community by utilizing a web-based community-level systems approach targeted at large employers and churches.
- 4) Provide cancer training modules and information about screening locations for county agency and school staff (i.e., County Health Department; Municipalities-Local Boards of Health; school nurses and health education teachers) using the internet.

Priority 4: Expand the role and resources of the Hunterdon County Cancer Coalition. (EPHS 1, 3, 4, 5, 9, 10)

- 1) Utilize the cancer coalition for countywide planning to implement the NJ-CCCP as appropriate and establish priorities for cancer outreach/education/screening, treatment, and support throughout the county.
- 2) Provide resources, including a staff person, to operate this coalition effectively.
- 3) Use the cancer coalition to increase communication of cancer-related activities throughout the county.
- 4) Develop and implement a Hunterdon County Cancer Coalition web site.

Recommendations for Statewide Priorities

Recommendation 1: Expand cancer early detection and education programs to foster greater participation among low-income populations. (AC-2, AC-2.17, ME-2, ME-4, ME-5)

- 1) Continue to support the NJCEED program. Evaluate the NJCEED program and ensure that the program has adequate funding to implement the following:
 - a. Include other cancers in the program.
 - b. Expand the presumptive eligibility requirement to include younger and older individuals who are currently not eligible for the program.
 - c. Adopt a set of “best practices” developed from nationwide and local experiences.
 - d. Establish a statewide media and public education campaign to raise awareness of melanoma and available strategies for prevention.

Recommendation 2: Promote prevention and education activities among adults and youth and foster health literacy. (NP-1, OR-2, OR-12)

- 1) Develop and implement Internet-based educational and support opportunities.
 - a. Establish a model internet health literacy program that can be expanded to other counties.
 - b. Seek funding sources to support statewide efforts.
- 2) Support education and media campaigns to promote good nutrition, weight control, and physical exercise for cancer prevention.
- 3) Support collaborative efforts between the NJDHSS Office of Cancer Control and Prevention and the New Jersey Department of Education to enhance education on healthy lifestyles, nutrition, and physical exercise in school curricula.
- 4) Continue to support the New Jersey Tobacco Control Program and advocate for legislation to curb tobacco use in public places.

Closing Remarks

One of the true challenges for any county NJCEED office is to provide ongoing educational programming that reaches identified target population(s) in a cost-effective way. When funding streams are sufficient, staffing patterns can be sustained to provide educational and screening programs. However, once funding is reduced, such efforts become extremely difficult to maintain. Consequently, the very infrastructure created by these efforts erodes quickly, leaving many communities back at the original starting point when these programs did not exist. Furthermore, healthcare organizations are then faced with consumer disappointment regarding the cut-back of educational services once provided. Increasingly, as with other healthcare organizations, those responsible for providing health education are being pressured to provide cost-effective health services and to be fiscally accountable for the services they provide. Now, more of the populations of focus can be provided with information at their convenience – at home, the worksite, or the local churches – than was possible before the age of the internet. By 2010, it is estimated that internet access in New Jersey will approach 50% to 65% among low- to middle-income families.^{i,35,36,37}

Accessing information about health was the number three reason why Americans of all age groups used the internet in 2003. However, within the senior population, accessing health information was the number one reason for internet use.^{38,39,40} President Bush, in his address to

ⁱ While internet adoption has saturated the middle- to high-income populations, the highest percentage increase is now occurring within the \$15,000/year and lower income brackets. According to a recent study conducted by the U.S. Census Bureau, approximately 59% of the U.S. population used the internet (from any location) in 2003, compared to 31% of individuals with family incomes less than \$15,000.³⁷ In this study, approximately 60% to 65% of New Jersey's total population used the internet in 2003.³⁷ Although data are not available on low-income families within New Jersey, extrapolating from the national data, one can estimate that approximately 35% to 40% of low-income families had access in 2003. In reviewing the national data, adoption of the internet increases approximately 3% to 6% each year among low- to middle-income families.

the U.S. Department of Commerce, has established a national goal that all U.S. citizens will have home access to affordable broadband Internet access by 2007.⁴¹

Internet-based education should not replace more traditional strategies of cancer education and screening. Continued efforts are also needed in providing more traditional forms of outreach education. The internet can be used as a tool to market and advertise such efforts, as well as serving as a mechanism by which local community groups (i.e., churches; worksites; schools) can request educational programs and cancer screening.

The Institute of Medicine and the Centers for Disease Control and Prevention continue to support the development of on-line prevention strategies. As research has shown English literacy to empower the poor, so too has “Health Literacy” been shown to be a powerful approach in improving the ability of low- and middle-income groups to access health care services.^{36,37,42} Consumers will access the Internet to obtain health education at their convenience from a variety of locations such as churches, restaurants, local libraries, cable television within the home, and shopping malls. The health education material they receive will be tailored to their reading and comprehension levels, while providing information about more traditional venues (i.e., local community-based programs) they can participate in.^{j,43,44}

The Cancer Capacity and Needs Assessment provides a detailed baseline assessment for Hunterdon County. The data, interpretations, and recommendations were developed to provide a wide array of public health and medical personnel with standardized information and detailed analyses that can help guide and focus their efforts at the county level, including such local health initiatives as the forthcoming Community Health Improvement Plans. The reports from all of the counties will collectively inform the continuing comprehensive cancer control efforts of the Office of Cancer Control and Prevention of the New Jersey Department of Health and Senior Services, the Governor's Task Force on Cancer Prevention, Early Detection and Treatment in New Jersey, and the University of Medicine and Dentistry of New Jersey.

^j Because on-line health education is in its infancy (witnessed in the last 10 years), many internet websites have typically posted “print media” onto the web for consumers to read. Over the next decade, internet-based health education will continue to evolve using more interactive approaches, tailored messages, and the application of health communication and behavior change theories.

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